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Sheet (5)

1. What is the offered traffic expressed in Erlang and CCS if the calling rate and mean call duration are respectively;
a. 1000 c/h; 90 sec.
b. 1200 c/h; 2 minutes.
c. 4 c/s; 1.6 minute.
d. 3 c/m; 0.04 hour.

2. Given a message switching node that normally experiences four arrivals per minute. What is the probability that eight or more arrivals occur in a 30-sec interval?

3. Assuming each of 10,000 subscriber's lines originates one call per hour, how often do two calls arrive with less than 0.01 sec between them?

4. What is the probability that a 1000-bit data packet experiences exactly four errors while being transmitted over a transmission link with a bit error rate (BER) = 10^{-5} .

5. If the call intensity is 5 calls per minute, and the mean service time is 3 minutes. What is the offered traffic-volume during a working day of 8 hours?